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CAN FASHION EVER BE SUSTAINABLE? THE CHALLENGES OF SUSTAINABILITY IN THE FASHION INDUSTRY

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MANAGEMENT STRATEGY AND INDUSTRY EVOLUTION

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Summary

The purpose of this paper is to study whether fashion can be sustainable or not and define the challenges and barriers for conducting sustainability in the fashion industry. The study relies on the qualitative multiple case study method. Through documentation analyses of four different fashion brands this thesis presents how and why those companies have engaged in sustainable practices and what opportunities and challenges they face.

The findings demonstrate that the process of sustainability impels the fashion industry to change towards something less polluting, more efficient and more respectful than what exists today. However, the complexity of fashion has made the concept of sustainability difficult for the mainstream industry to address. Since it can be difficult to get the balance between fashion and sustainability, an understanding of fashion industry's role in the end-of-life of the products and visible actions on the part of both designers and companies are needed. Moreover, every positive sustainable action the companies do can not only build awareness toward consumers but also benefit the brand from gaining competitive advantages. Finally, a lot of the biggest change also comes from series of small, individual actions, which means consumers also plays an important role in it by making wise purchasing decisions, taking good care of their products and slowing down the fashion cycle. As a result, fashion is a connector linking people together and if we can find our responsible roles and work hand in hand together, it is possible to conquer the challenges and pursue a more sustainable future.

<Inside Cover>

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CHAPTER 1. INTRODUCTION

Plants, trees, air, water and people. What does it all have to do with business? The word “sustainability” is a way of keeping the delicate ecosystems of our planet in balance. Remember the Disney film “The Lion King”, it teaches us we are all connected in the great “circle of life”: all living things depend on each other and that all life can be impacted by even the smallest changes in the environment. The movie even shows what happens when a powerful leader does not acknowledge and appreciate the balance. Moreover, in the song Colors Of The Wind from another Disney film, Pocahontas also sings about how the earth is connected and everyone and everything has a role in it. Taking inspiration from these movies and applying the logic on business we could argue that if companies keep taking from the planet and do not respect the balance, it will eventually have negative impacts on the global economic system.

The fashion industry is highly complex and characterized by short runs, fast turnover and a diverse range of products channeled through a fragmented and frequently changing supply chain distributed over many global locations (Black, S., 2012). In the 1990s, many companies in the fashion industry became aware that the conditions of their suppliers ought to be included in their corporate social responsibility (CSR) policy. CSR is usually defined as social and sometimes also environmental initiatives, which go beyond what is required by law. Therefore, many companies went into this area to minimize the risk of being target of consumer campaigns and boycotts. (Skov, L., 2010) However, doing CSR is not enough to create a sustainable world. Thus, in recent years, in order to focus on the long-term results, the fashion industry started to address on sustainable design where the product is created and produced with consideration to the environmental and social impact it may have throughout its total life span, including its "carbon footprint". Moreover, the goal is to produce fashion in a closed loop and there is a shared responsibility since fashion involves everyone using less of our planet's resources and reducing waste.

However, the increasing interest in sustainable fashion is set against a bleak backdrop. There has been a long-term drop in clothing prices, and the decrease in prices has been accompanied by an

increase in consumption volume (Skov, L., 2010). Compared with fast fashion brands, luxury brands are often considered more sustainable due to the rarity, quality and craftsmanship. Unfortunately, the average consumers cannot afford the pricey luxury goods. But sustainable fashion companies with reasonable price are becoming increasingly popular and helping consumers make wise purchasing decisions.

This thesis studies the issues between fashion and sustainability and defines sustainable challenges and advantages for the companies in the fashion industry. Moreover using four different fashion brands to analyze the issues from the products to the relationship among designers, consumers and companies.

CHAPTER 2. LITERATURE REVIEW: SUSTAINABILITY

Section 1. TRIPLE BOTTOM LINE

“Development that meets the needs of the present without compromising the ability of future generations to meet their needs.” (World Commission on Environment and Development, 1987, p. 8 cited in Carter and Roger, 2008). According to Carter and Roger, 2008, this is the most quoted and widely used definition of sustainability.

Elkington (1998, 2004) developed a broad concept of sustainability, which consists of three components: the natural environment, society, and economic performance. It suggests that if the companies engage with the triple bottom line, they can not only positively affect the natural environment and society, but also result in long-term economic benefits and competitive advantage for the firm.

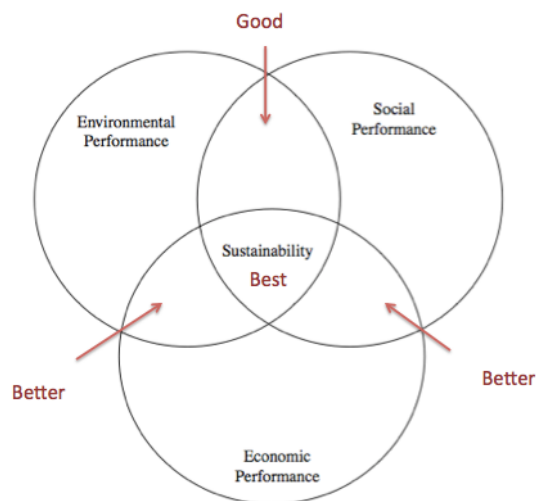


Figure 1 The triple bottom line of sustainability
(Source: Carter and Roger, 2008)

Section 2. NESTED TRIPLE BOTTOM LINE

The triple bottom line model gives equal importance to each of the three pillars. However, this can be challenged. No economy can exist without people and people cannot live without basic needs of water, air and food provided by the environment (UBC engineer, n.d.). It shows that human society is a wholly owned subsidiary of the environment (Willard, 2010). As a result, for a more accurate understanding, it should nest the economy within society, which in turn is nested within the environment. This depiction more clearly articulates the fact that the economy depends on society, which more broadly depends on the environment (Giddings et. al, 2002). For many major industries sustainability means a focus on environmental issues, thus, all major industries and the companies within them have been hard-pressed to improve upon their methods in order to reduce the environmental impact of the products they supply. Nevertheless, environment issues indeed is the main point of being sustainable, but we should also maintain a functioning peaceful society and use the economy as a tool to enhance our lives and opportunities. It's the people in societies who create their economics and select what economic model they will use since people decide how they will exchange goods and service. Therefore, people can change their current economic models if they find the models are not working to improve their quality of life (Willard, 2010). In summary, the health of our economy and society rely on the health of our environment.

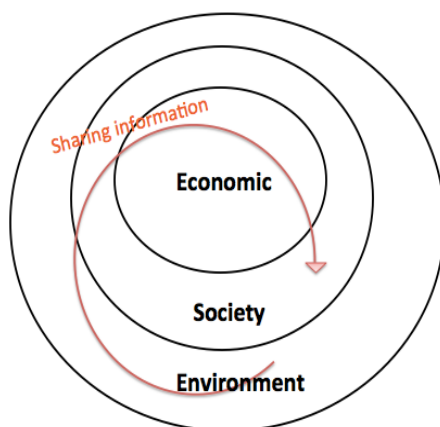


Figure 2 The nested triple bottom line

Section 3. FOUR SUPPORTING FACETS

Although there are other aspects of sustainability, Carter and Rogers (2008) concluded four supporting facets of sustainability, which are risk management, transparency, strategy and culture. They also showed the relationship with the core triple bottom line.

Risk management: An organization must manage not only short-term financial results, but also risk factors such as any harm caused by its products, environmental waste, and worker and public safety (Carter and Roger, 2008). Those risk factors might also cause damage to a firm's reputation and can result in a costly outcome for a company. Moreover, Thogerson (2015) indicates that a requirement which “third-party” such as government or trusted NGOs labeling schemes usually meet better than producers’ or retailers’ own labeling schemes. In other words, when it comes to conflicts between companies and NGOs, companies have to be aware that consumers tend to trust NGOs. For example, Greenpeace accused Nestlé, maker of Kit Kat, of using palm oil from companies that are trashing Indonesian rainforests, threatening the livelihoods of local people and pushing orangutans towards extinction. The information spread fast through videos and articles that were posted on the Internet. As a result, consumers started to boycott the brand and its products. Due to knowing the devastating impact from a boycott, Nestlé announces it will stop using products that come from rainforest destruction. (Greenpeace, 2010).

Transparency: transparency is important because companies are pressured by the demands of stakeholders and communities ask for more transparency in the organization’s work practices. Nowadays keeping secrecy of the company’s faults is very hard because of the media, Internet and satellite television. Which naturally results in a fast spread of the information about their wrongdoings. However, transparency includes not only reporting to stakeholders, but also actively engaging stakeholders and using their feedback and input to secure buy-in. (Carter and Roger, 2008)

Strategy and culture are aspects that must also be part of the company’s sustainability efforts and corporate strategy. However, the four supporting facets of the triple bottom line are not

intended to be entirely mutually exclusive. For example, improving transparency can reduce risk by lowering the chances of consumer boycotts and targeted actions by NGOs, and can also be an explicit part of an organization's strategy. (Carter & Rogers, 2008)

CHAPTER 3. CONCEPTUAL FRAMING

Section 1. OVERVIEW OF THE FASHION INDUSTRY

The words “fashion and “clothing” present different aspects of our relationship with what we wear. The clothing industry makes ordinary clothes or mass fashion like our everyday basic wear purchased out of necessity. On the other hand, the fashion industry makes “high fashion”. Fashion can be driven by all manner of personal and symbolic motivations such as desire, aesthetics, novelty, and conformity. However, nowadays the boundaries between them become blurred. Jeans and T-shirts, for instance, are now basic clothing but can also have high fashion content (Black, S., 2012).

The fashion system operates across a broad range of market levels: individuals and small designers businesses work for niche luxury markets; mass-market commodity clothing; Fast fashion that aims to be exactly on trend and on time; and higher priced designers-branded fashion that lead the trend. (Black, S., 2012)

Section 2. THE THREE PILLARS OF SUSTAINABILITY IN THE FASHION INDUSTRY

“Fashion is a connector, linking people across demographics, socio-economic groups and nationalities; and an attractor, drawing people into a movement for change. Yet fashion also has a complex relationship with larger systems; with economic, ecology and society”. (Fletcher,K. and Grose, L.,2012)

When it comes to fashion, the environmental pollution and exploitation in the clothing industry have become major issues of being sustainable. The textile and clothing life cycles consume more energy and water than do the product life cycle of any other industry other than construction or agriculture (Black, S., 2012). Moreover, those issues are still far from being rectified today. Skov,L. (2010) recognizes five main areas of controversy that overlap with political, social, legal, economic,

and environmental concerns in the fashion industry. First, representations of idealized gender and body images; second, fakes and counterfeits of branded goods; third, working conditions; fourth, environmental impact and sustainability; and fifth, animal rights.

Issues	Typical problems
Idealized body and gender images	<ul style="list-style-type: none"> • Women's self esteem • Stereotype of fashion models
Fakes	<ul style="list-style-type: none"> • Rip-offs • Imitation goods • Counterfeits
Labor condition	<ul style="list-style-type: none"> • Sweatshop: lack basic conditions for safety and comfort, air ventilation, space between working stations, storage space and accessible exits. • General problems: child labor, union assembly rights, and harassment. • Low wages
Environment	<ul style="list-style-type: none"> • Cotton (pesticides, water consumption, land use) • Wool (pesticides) • Synthetic fibres (mineral oil-based, high-tech energy intensive, non-biodegradable) • Waste
Animal right	<ul style="list-style-type: none"> • Fur trade • Animal testing in cosmetics and toiletries

Table 1 Main issues in the fashion industry

(Source: Skov, L., 2010)

From the concept of the three pillars in triple bottom line, sustainable fashion represents an approach to the design, sourcing and manufacturing of clothing, which in turn maximizes benefits to people and communities while minimizing the impacts on the environment and still maintain the current business models. The illustration of sustainability in the fashion industry can be improved by combining the three pillars with issues in the industry.

Environmental Performance	Social Performance	Economic Performance
<ul style="list-style-type: none"> • Natural Resource use (recyclable, reusable etc.) • Pollution prevention (water, air land, waste etc.) • Environment management 	<ul style="list-style-type: none"> • Welfare • Education and training • Prevent from being sweatshop and using child labor 	<ul style="list-style-type: none"> • Innovation, research and development • Profit • Cost saving • Lean production strategy • Economic growth

Table 2 The three pillars of sustainability in the fashion industry

Based on the nested triple line, environmental performance is the biggest circle of being sustainable. Therefore, if our planet is suffering, our societies will begin to suffer as well, and when our societies suffer, our economy struggles. Sustainable fashion is fashion that needs to be designed to be environmentally friendly with consideration of the social and economic impact. While environmentalism used to be manifested in fashion through a percentage of sales being donated to a charitable cause, fashion designers have recently adopted the idea of sustainability, using more environmentally friendly materials and methods in clothing production (Green Wiki, n.d.). Von Geibler et al (2011) states that sustainable management of natural resources and efficient use of raw materials has gained importance with respect to environmental, social and economic aspects. Moreover, A widely accepted theory in product design is that 80% of an item's environmental impact is determined by the material choice (Black, S., 2012). Environmental improvements aim at a more sustainable input and controlling the production in order to reduce chemicals and other risky substances threatening the natural environment and worker's as well as other stakeholders' health (Hansen and Schaltegger, 2013). As a result, in order to have a deeper discussion and analysis about the issues of sustainability in the fashion industry, this thesis focuses on the (environmental) sustainability at the beginning of the value chain by highlighting the fibre used for clothing. However, instead of animal rights, animal products will be categorized in the environmental issues since the production cause a lot of waste and pollution.

Section 3. THE SUSTAINABILITY IMPACTS OF FIBRES

Conventional cotton: Cotton is the main natural fibre used in the clothing industry (Die Umweltberatung, 2009b cited in Hansen and Schaltegger, 2013). However, conventional cotton contributes substantially to ecological and social sustainability dimensions since the impact of production are manifold (Hansen and Schaltegger, 2013). First, Cotton production uses more chemicals per unit area than any other crop. 2.4% of the world's cropland is planted with cotton and yet it accounts for 24% and 11% of the global sales of insecticide and pesticides respectively (WWF Global, n.d). The use of large quantities of pesticide and chemical fertilizer not only contaminates

soil and water and decrease biodiversity, but also has a significant health impact on farmers, workers and even consumers due to the residue (Hansen and Schaltegger, 2013). Second, It can take more than 20,000 liters of water to produce 1kg of cotton; equivalent to a single T-shirt and pair of jeans. And 73% of global cotton harvest comes from irrigated land. (WWF Global, n.d.) Last but not least, cotton is one of the most “thirsty” crops in several large River Basins including the Indus River in Pakistan, the Murray-Darling Basin in Australia, and the Rio Grande in the United States and Mexico (WWF Global, n.d.). Since it usually cultivated in large monocultures, it is responsible for a decrease in virgin forest and displacement of the local populations (Hansen and Schaltegger, 2013).

Artificial fibres: In recent years, cotton has declined in share of the textile market from 40 per cent to 35 per cent, largely due to the emergence and popularity of man-made fibres (Martyn J., 2014).

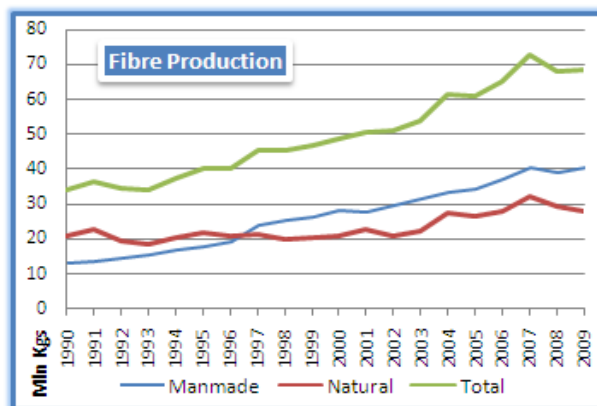


Figure 3 Fibre production

(Source: world fiber report 2010)

Although synthetic fabrics use comparatively little water in their production, the manufacture of synthetic fibres generates greenhouse gases, which are responsible for climate change. The emission of nitrous oxide while producing nylon is an air pollutant and a potent greenhouse gas approximately 300 times more potent than carbon dioxide (Black, S., 2012). Fibres that are based on minerals and oil are described as non-renewable since there is a gross imbalance between rate of extraction and speed of regeneration. As a result, it's clear that polyester, which is made from

petrochemicals and oil extraction, also has negative impacts on the environment. Moreover, being based on non-renewables and mostly petrochemical, non-recycled materials cause themselves not only environmental issues but also health problem to the workers in all phases of the product life-cycle (Hansen and Schaltegger, 2013).

Animal Fibres: According to Stella McCartney, *“about 50 million animals die for the sake of fashion every year, which is extremely wasteful and significantly contributes to climate change”* (Black, S., 2012). Animal fibers are natural fibers that consist largely of particular proteins. For instance, leather, hair/fur/wool and feather. Although many people state that animal fibres are sustainable since they are natural, recyclable and long lasting fibres, livestock production is one of the most polluting and resource intensive industries in the world and animal fibres do affect the environment. Take fur for example, somehow people define wearing fur as fashion, but since fur comes from animals and dead animals will rot, manufactures need to use chemicals to prevent putrefaction. The main processing chemicals used are formaldehyde and chromium (Hoskins, T., 2013). The fur processing is causing high levels of pollution and the chemicals often leak into waterways, which harm not only the environment but also human and other creatures. Moreover, fur dressing is ranked as one of the world's five worst industries for toxic-metal pollution by the world bank (Hoskins, T., 2013). Similar to leather, leather production is a precise and complicated process that is energy, water and resource-intensive, typically with highly toxic chemicals used in each step. According to Sandy Black (2012) the issue of leather and the highly toxic impact remains largely unaddressed by big luxury brands, which tend to pay more attention to waste-water management but not to the actual chemicals used in tanning or dyeing. However, leather can be tanned used non-toxic vegetable dyes, but since chrome tanning is faster and produces a flexible leather that's better for high-end bags and coats, there's no incentive for factories to switch (The guardian, 2008).

Section 4. THEORETICAL FRAMEWORK-MOTIVES FOR COMPANIES TO INTEGRATE SUSTAINABILITY

Integrating sustainability issues into business strategy and greening the innovation process are becoming not only just a trend but also a strategic opportunity for companies. Moreover, the number of companies embracing the concept of sustainability into their business strategy, and developing environmental strategies is growing (Aragon-Correa and Sharma, 2003; Dyllick and Hockerts, 2002; Sharma and Vredenburg, 1998 cited in Dangelice, R.M. and Pujari, D., 2010). In order to discuss the sustainability issues in the fashion industry, it is important to understand the reasons why companies started to remodel their process of designing, developing and marketing products in a sustainable way. Several studies have identified motives for corporations going green, such as regulatory compliance, competitive advantage, stakeholder pressures, ethical concerns, critical events, economic opportunity and top management initiative (Dillon & Fischer, 1992; Lampe, Ellis, & Drummond, 1991; Lawrence & Morell, 1995; Vredenburg & Westley, 1993; Winn, 1995 cited in Bansal and Roth, 2000). Motivations that push firms to go green and what contexts lead to particular motivations can be very different (Bansal and Roth, 2000; González-Benito and González-Benito, 2006 cited in Dangelice, R.M. and Pujari, D., 2010). However, There are two main reasons that need to be mentioned for which companies desire to become “green”. The first is because they need to comply with laws that require them to work within certain standards, and the second because they believe in the pursuit and promotion of sustainable work practices. (Bansal and Roth, 2000)

This thesis incorporates three motives - risk minimization, reputation improvement and competitive advantage- into the theoretical framework to discuss not only the environment reason why companies ought to adopt sustainability strategy but also the benefits of a company being sustainable. In order to create a better overview, an illustration of how these theories interact is provided below and each element will be defined in turn.

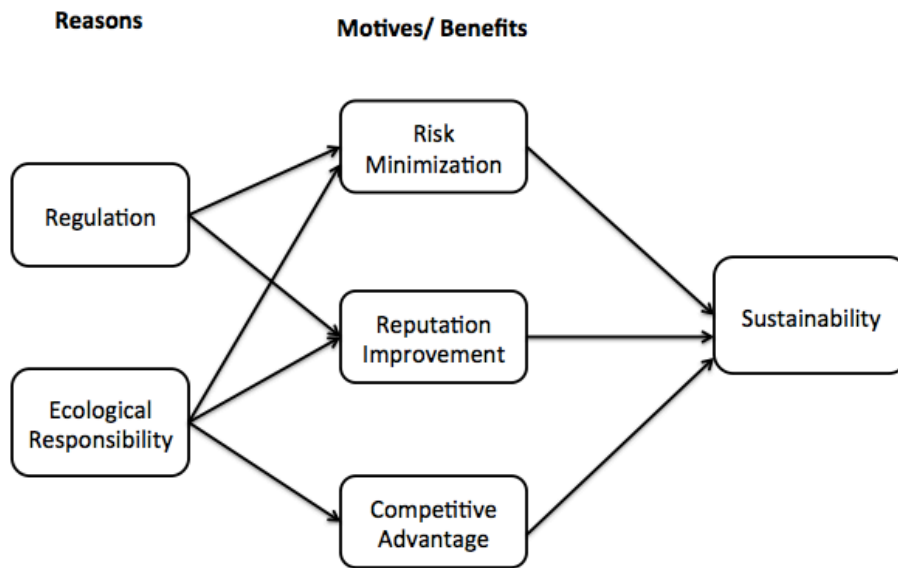


Figure 4 Theoretical framework for companies intergrade sustainability

3.4.1. Risk minimization

During the last two decades, a number of declarations and regulations for environmental protection have followed one another. The regulations continue to determine growing impacts on industries, and compel companies to green their processes and products (Dangelice, R.M. and Pujari, D., 2010). Although some companies conduct sustainability to comply with regulations, environmental regulations do not represent only constraints for companies, it also cautions for avoiding risks of activity breakdown, money losses or damage to the company image (Dangelice, R.M. and Pujari, D., 2010). As mentioned regarding risk management previously, a company should focus on long-term impact and overall performances. Whether it is for complying the regulations or not, integrating sustainability strategy could not only minimize the risk of getting target by NGOs and/or boycotted by consumers, but also build strong relationship with stakeholders and get their support in order to have a lower level of employee turnover, access to a higher talent pool and consumer loyalty.

3.4.2. Reputation improvement

Improved reputations allow firms to attract talent, get better agreement with suppliers and authorities and build customer loyalty. All of which result in CFP (cooperate financial performance) improvements (Surroca et. al., 2010). A good reputation will persuade the consumers that their products and services are produced in an ecologically and socially responsible way and lead stakeholders to believe that the firm will fulfill its ethical responsibilities in the future. Such beliefs should stimulate the formation of trust between stakeholders and the firm, resulting in closer relationships and greater stakeholder satisfaction (Strong et al., 2001 cited in Surroca et. al., 2010). Moreover, having trust and a close relationship can also reduce the costs from monitoring and performance evaluations (Pedersen, E.R. & Andersen, M., 2006).

3.4.3. Competitive advantage

Bansal and Roth (2000) through their research work and interviews found that some firms considered that competitive advantage could be gained through environmental responsibility. Improved competitiveness includes energy and waste management, source reductions resulting in a higher output for the same input, eco labeling and green marketing, and the development of “eco product”. Bansal and Roth states that a company’s ecological responsiveness leads to sustained advantage and hence improves long-term profitability.

According to Barney (1991), the differences in assets (including intangible assets) are sources of competitive advantage. Companies should build VRINS (valuable, rare, imperfectly imitable and non-substitutability) to gain competitive advantage. While discussing corporate responsibility performance and cooperate financial performance, Surroca et. al.(2010) concludes four intangible resources (innovation, human capital, reputation and culture) that leads to more efficiency, better strategies, more innovativeness etc. This in turn can be sources of competitive advantage. As a result, we can appreciate sustainability as a VRIN and competitive advantage over its rivals.

CHAPTER 4. METHODOLOGY

This thesis followed a multiple-case study research approach with a focus on the fashion industry. The fashion industry is selected due to its high importance for sustainability. First, clothing is a basic human need. Second, fashion is a connector bringing together designers, producers, retailers and all of us as consumers, yet fashion also has a complex relationship with economics, ecology and society. The analysis focuses on the industry level to present how individual companies respond to sustainability challenges. Since the conclusions drawn from multiple-case studies are often found to be more compelling and valid as aid in the overall study, the thesis has chosen four different players who all have the same goal of pursuing to become more sustainable in the fashion industry.

The discussion of the given study cases will work as a basis for the analysis secondary sources such as previously published research, company reports, websites, and news articles, useful for offering a historical background of the cases and providing with practical aspects necessary for analyzing the four companies and relating them to suitable theoretical frameworks. Also, different literature reviews and articles referring to the environmental pitfalls and performance will be used.

The thesis's main research question is:

What are the challenges of sustainability in the fashion industry from the products to the consumers and companies, and how do sustainable businesses respond to those challenges?

Moreover, to be able to answer the main research question, 3 sub-questions were formulated:

- What are the challenges for making the fibres of the product sustainable?
- Are consumers willing to buy green products?
- Are companies willing to change for sustainability?

CHAPTER 5. CASE DESCRIPTION

Section 1. STELLA MCCARTNEY

Stella McCartney, a designer and the daughter of The Beatle Paul McCartney, launched her own fashion house under her name in a partnership with the luxury conglomerate Kering as a 50/50 joint venture and showed her first collection in Paris in October 2001. A lifelong vegetarian, Stella McCartney does not use and has never used skin, leather or fur in her collections in any of their products, collaborations or licensed products. She makes this decision for both ethical and environmental reasons. Stella McCartney's commitment to sustainability is evident throughout all her collections and is part of the brand's ethos of being a responsible, honest, and modern company. (Stella McCartney, n.d.)

Stella McCartney designed a range of collections for H&M to boost public awareness of her own brand and to create more affordable options for her fans in 2005. She also launched a joint-venture line with Adidas, establishing a long-term partnership with the corporation since 2004 and designing sportswear that included her designs for the 2012 British Olympic team uniforms (Black, S., 2012).

Section 2. PATAGONIA

Patagonia is an American clothing company founded by Yvon Chouinard in 1973 that sells and showcases mainly sustainable outdoor clothing for men, women, kids, and babies. Patagonia was still a fairly small company when they started to devote time and money to the increasingly apparent environmental crisis. (Patagonia, n.d.) The company is a certified B Corp, a private certification issued to for-profit companies for social or environmental performance (Bcorporation, n.d.).

Patagonia donates their time, services and at least 1% of their sales to hundreds of grassroots environmental groups all over the world. They are one of the major contributors to environmental groups and Yvon Chouinard was also a founding member of One Percent for the Planet, an organization that encourages other businesses to do the same. Staying true to their core values and focusing on making the best products have brought Patagonia success in the marketplace. (Patagonia, n.d.)

Section 3. H&M

H&M (Hennes&Mauritz) is a Swedish-based fast fashion giant established in 1947 by Erling Persson. The company has grown into a profitable force in the global apparel market due to the business model of “fashion and quality at the best price”. The company orders huge quantities from its suppliers in order to achieve lower prices than its competitors. (Black, S., 2012)

H&M has taken many steps towards improving its environmental performance. The collaboration with Stella McCartney in 2005 resulted in H&M substantially exceeding its commitment to using organic cotton. H&M made a commitment that aims to minimize impacts at every stage of their products life cycle, from how cotton is grown to the way their customers use their garments. They provide fashion for conscious customers and all their sustainable fashion is easy to recognize with its green conscious hangtag. (Black, S., 2012)

Section 4. PURE WASTE

Pure Waste was established in October 2013, when a few founders of the Helsinki-based clothing company Costo decided to put into practice their plans of turning waste materials into fabric (Mehtala, 2014). Their goal is to make the industry more sustainable by using 100 percent recycled materials without making any compromises in the quality. This vision has its roots in the Nordic tradition of recycling and draws its motivation from the pure environment of Finland. Moreover,

Pure waste took the scarab as their logo since the scarab's natural tendency to recycle and it represents the company's vision of sustainable textile manufacturing. (Pure Waste, n.d.)





Company	Stella McCartney	H&M	Patagonia	Pure Waste
Logo				
Market segment	Designer luxury brand	Fast fashion brand	Outdoor clothing brand	Small clothing brand
Established	England/ 2001	Sweden /1947	USA / 1973	Finland /2013
Distribution	Distribution in 7 countries	More than 4,000 stores in 62 countries	30 retail stores in the US. Retail stores in 15 other countries, global dealership	5 retail stores in Finland
Characteristic	The world's first and only vegetarian luxury brand	Conscious product with a green hang tag	Build the best product with no unnecessary harm	Recycle waste into shirts

Table 3 Case descriptions

(Source: Companies' web site)

CHAPTER 6. ANALYSE

Section 1. THE SUSTAINABILITY CHALLENGES OF FIBRES

“The sustainability issues influenced by a garment’s material include the full gamut of impact: climate change; adverse effects on water and its cycles; chemical pollutions; loss of biodiversity; overuse and misuse of non-renewable resources; water production; negative impact on human health; and damaging social effects on producer communities.” (Fletcher, K. and Grose, L., 2012)

People might think that if we can substitute the materials that alleviate those impacts then job done. However, in reality, the issues are far more complex than this. All materials impact ecological and social systems in some way, it’s just that the impacts differ in scale and type between fibres (Fletcher, K. and Grose, L., 2012) and the best way to pursue sustainability is to lower those negative impacts. Hansen and Schaltegger (2013) concludes four major approaches exist to address ecological challenges of natural fibres, which differ in their effectiveness, including replacement of natural fibres, use of recycled fibres, integrated production, and organic production of natural fibres. However, Hansen and Schaltegger (2013) uses mainly cotton as an example, but this concept can be used to discuss other fibres with issues regarding sustainability.

1. **Replacement of natural fibres.** The first approach is the replacement of cotton and other natural fibres with artificial fibres (Hansen and Schaltegger 2013). As mentioned previously, the use of synthetic fabrics such as polyester and nylon are increasing rapidly in recent years. Peta, animal rights organization, also recommends on their website to choose the products with synthetic fabric and to shop in fast fashion brands such as Forever 21 and H&M to avoid using animal product and by-product (Peta, n.d.). However, because of the negative impacts to the environment and society, synthetic fabrics could not represent a more sustainable alternative to clothing made from conventional natural fibres. Therefore, a better alternative might be to substitute natural fibres with artificial fibres from renewable sources (Hansen and Schaltegger 2013). Patagonia has a collaborative long-term research and development project with Yulex Corporation to develop a

wetsuit material from guayule rubber, a renewable resource that provides improved elasticity and softness to the finished material and can be replaced faster than the product wears out (Patagonia, n.d.). Although guayule plants aren't grown organically, the agriculture is low-impact and the extraction and processing uses little energy and few chemicals (Patagonia, n.d.).

2. **Use of recycled fibres.** A second approach is the use of recycled fibres (Hansen and Schaltegger 2013). Skov (2010) indicates that since the 1990s, it has been possible to recycle polyester fiber. Patagonia is the first outdoor clothing manufacturer to transform trash into fleece and began making recycled polyester from plastic soda bottles in 1993. Nowadays, Patagonia also recycles unusable manufacturing waste and worn-out garment into polyester fibers to produce clothing. And for the last five years, Patagonia uses recycled nylon, which comes from post-industrial waste fiber, yarn collected from a spinning factory, and waste from the weaving mills that can be processed into reusable nylon fiber (Patagonia, n.d.). Stella McCartney is also increasing the use of recycled material by launching recycled polyester for outerwear and recycled microfiber for bags (Stella McCartney, n.d.). Although according to TextileExchange (2011) Cited in Hansen and Schaltegger (2013), polyester takes most of the shares of recycled fibres and cotton recycling is only slowly gaining more attention. Pure Waste and H&M both intend to increase the use of recycled cotton. Pure waste guarantees their products are entirely made out of recycled textile waste and offer their consumers the same quality and comfort as those made out of virgin materials. Pure Waste also states that using recycled cotton saved 11,000 liters of water per kilogram, which is required to produce the water intensive cotton crops (Pure Waste, n.d.). For H&M, in order to stop old clothes and materials going to waste, save raw materials, and use fewer resources – including chemicals, water and land - they are using more and more recycled cotton in their products (H&M, n.d.).

Moreover, sustainable fashion designers prefer to use recycled materials from old clothes when using animal fibers so that they keep such materials out of landfills. In order to lessen the

impact of wool production that demands energy, water and chemicals, both Patagonia and H&M use recycled used wool in their products (Patagonia, n.d. & H&M, n.d.).

However, Hansen and Schaltegger (2013) challenges the recycled fibres by saying that the contribution of recycling to increasing the industry's sustainability is often overstated. Recycling is mostly "downcycling" and products with recycled contents can often not be recycled again due to the mix of different plastics (Hansen and Schaltegger, 2013). But just take cotton for example, at the moment, 2.6 % of the Earth's surface (the size of Turkey) is used for growing cotton. This has also resulted in almost completely drying up the lake Aral. As a result, if recycled materials aren't used, the problem will just keep on swelling. After all, it takes 10 years before we can grow organic cotton where there once was a regular cotton plantation (Mehtala, 2014).

3. **Integrated production of natural fibres.** A third approach aims at the provision of a more sustainable production system for natural fibres (Hansen and Schaltegger 2013). For example, the integrated production system is an efficiency approach and deals with the reduction of environmental impacts by using fewer pesticides, fungicides, chemicals and water (International Organization for Biological and Integrated Control of Noxious Animals and Plants, 2004. Cited Hansen and Schaltegger 2013). Initiatives such as the Better Cotton Initiative (BCI) is helping farmers to grow cotton in a way that reduces stress on the local environment and improves the livelihoods and welfare of farming communities (H&M, n.d). H&M uses improved cotton and is also an active member of BCI. In 2015, BCI achieved its goal of training one million farmers in harvesting cotton with less water and chemicals by working with partners such as World Wild Foundation (WWF) and Solidaridad (H&M, n.d).

Moreover, some researcher and practitioners also consider genetically modifying fibres as a solution to the misuse and overuse of pesticide and chemicals and thus as a contribution to sustainability (Hansen and Schaltegger 2013). However, Hansen and Schaltegger (2013) also questions this by saying that we still lack of knowledge of both long-term effectiveness and the many ecological, social and ethical risks associated with the technology.

4. **Organic fibres.** Contrary to the integrated production system, the organic production system is a “consistency” approach (Schaltegger and Burritt, 2005. Cited in Hansen and Schaltegger, 2013) as it aims at producing fibres with material flow systems in harmony with the natural environment (Hansen and Schaltegger, 2013). Organic cotton makes more efficient use of water, avoids the use of harmful chemicals and keeps soil healthy. Organic cotton farming methods also promote better social and a healthier and happier working condition for farmers. Less chemicals means greater biodiversity. Therefore, the planet is better for it. (Stella McCartney, n.d.)

Due to a more positive effect on the environment and society, organic cotton has become an important trend to the clothing industry for the last decade (Hansen and Schaltegger, 2013). H&M states that they are one of the leading users of organic cotton in the world (H&M, n.d.). According to the recent Organic Cotton Market Reports from Textile Exchange, H&M has reemerged as No.2 in 2014 and No.1 in 2013 in its annual business rankings of worldwide organic cotton buyers (TextileExchange, 2013 & 2014). Stella McCartney sources organic cotton whenever possible and claims that in 2014, 72% of the denim collection was made from organic cotton, 54% of the cotton jersey was made from organic cotton and 74% of the cotton used in the kids wear collection was organic cotton (Stella McCartney, n.d.). In contrast with partially using organic cotton in their products, Patagonia began the exclusive use of organic cotton in their entire cotton product in 1996 and made a commitment that they will never go back to conventional cotton, regardless of the outcome (Patagonia, n.d.). However, organic fibres is often less profitable as it usually requires more manual labor and thus causes higher costs (Hansen and Schaltegger, 2013). As a result, organic cotton accounts for only about 1 percent of global cotton production (Pay, 2009. Cited in Hansen and Schaltegger, 2013)

According to Porter and Kramer (2011), *“business and society have been pitted against each other for a long time. In order to provide societal benefit, companies must temper their economic success. Adding a constraint to a firm that is already maximizing profit will inevitably raise cost and reduce those profits”*. In this sense, it’s hard to let a successful company change just in one night

since the company might be reluctant to cannibalize existing product line or compromise with a lower profit. However, the retail-clothing giant H&M is willing to change step by step by creating the H&M conscious collections and the price difference between an organic and regular shirt is actually negligible. For Patagonia, although they have considered the financial risks of changing their entire cotton product to organic cotton, they still decided not to go back to conventional cotton ever again (Patagonia, n.d.).

Moreover, It's also important to educate consumers about the benefits of organic cotton, empowering them to make informed decisions. Stella McCartney, H&M, and Patagonia all illustrate the reasons why they prefer using organic cotton in their products and what the negative impacts are of using conventional cotton on their web pages. Although organic cotton only accounts a low percentage in the worldwide cotton production, Textile Exchange reports the organic cotton market is stabilizing and making incremental progress (TextileExchange, 2013). In other words, organic cotton isn't yet everywhere, but that day is coming soon.

However, plant-based materials such as hemp, bamboo and soy are also considered sustainable fibres that could be used in clothing, bags and shoes. These natural fibres are cultivated with low impact on the environment since most of them require no pesticides, synthetic fertilizers or genetically modified organism (GMO) seeds. They grow quickly and need less water compare with cotton (Patagonia, n.d. and Wikipedia, n.d.). H&M uses organic hemp and organic linen in their clothing (H&M,n.d.). Patagonia makes some garments with 100% hemp or blends it with other fibers like recycled polyester, organic cotton and spandex (Patagonia, n.d.) Stella McCartney uses linen, bamboo, and sustainable wood in their products and partners with NGOs for making a commitment to ensure that none of the raw materials used to make viscose/rayon in their collections are neither contributing to the loss of ancient and endangered forests or originating from other controversial sources (Stella McCartney, n.d.).

Section 2. ARE CUSTOMERS WILLING TO BUY GREEN PRODUCTS?

As stated by Manget et.al. (2009), *“customers believe that companies can be more effective than private individuals in acting on green issues and they expect them to do so”*. The Boston consulting Group who conducted a global consumer survey to assess green attitudes and shopping behaviors also shows that approximately two the thirds of survey participants said that they would shop more often at a store if it would sell organic and green products (Manget et.al., 2009) However, Manget et.al. (2009) through their survey also found that most of the consumers are confused when shopping for green products and uncertain about exactly what being green means and what benefit it provides. This indicates that customers are actually willing to change and buy green products but they still lack of knowledge about sustainability and WHAT or HOW to do. Designer Katherine Hamnett supports this theme by saying that *“consumers are driving to change; they are enfranchised – the power to change the world is in their wallet and it is life-affirming. Once people have the information (about cotton growing and pesticides, for instance) and realize the negative environmental impact, their conscience is awakened.”* (Black, S., 2012).

6.2.1. Is sustainable/eco fashion attractive for consumers?

The most common reason for buying the item of clothing is because of necessity. Clothing covers our bodies, protects us from the elements and keeps us warm. It's simple that we buy clothes because we need them. Although there are many factors affecting consumer purchase decisions in the fashion industry such as quality, price, comfort etc., the appearance of a visible product usually decides whether consumers want to look more into it or not. Humans are visual animals and the clothing we wear is often our most obvious form of personal expression. While the price might always be the top-of-mind for consumers, lack of style or fashion elements appeared to be an obstacle for catching the consumers' eyes no matter how loyal the consumers are to the brands. As a result, we can conclude that a stylish and appealing product can lead to a better financial performance for companies in the fashion industry.



Figure 5 The relationship between the stylish/attractive products and the economic performance

However, when putting the words “fashion” and “sustainable” side-by side it seems a bit paradoxical. Eco-fashion has been dominated by natural looking colors and fibres and hasn’t reflected the real- world-taste in fashion yet. Although nowadays sustainability has become a factor for customers in their purchase decision, people usually don’t consider this kind of product to be “fashion” and often refer to it as “hippie clothes”. Caden Downie, fashion designer at ASOS, indicates that the customer is more interested in fashion and design than in sustainability. Moreover, it should be fashion first, but backed up by ethical credibility and sustainable effort (Black, S., 2012). According to Stella McCartney, the brand can’t ask a consumer to compromise by saying that “ here is this jacket that looks terrible but it’s organic, and here is a really beautiful jacket that’s cheaper but don’t buy it because it’s not organic” (Black, S., 2012) Stella McCartney further explains that sustainability /Eco shouldn’t be a word that immediately comes up with images of oatmeal-colored garments or garments that are oversized or lack in any sort of beauty. This is something that really needs to be broken down and the products shouldn’t be compromised in any way just because they are environmentally friendly (Lee, M., 2009). Patagonia’s founder, Yvon Chouinard also points out that 10 percent of the people like the value of the company and the other 90 percent buy the product because they like the color and style, but if you let your customers tell you to green your company, it’s way too late (seventhgeneration, 2010). As a result, it’s important to provide a sustainable product for the consumers without losing any of the desirability.

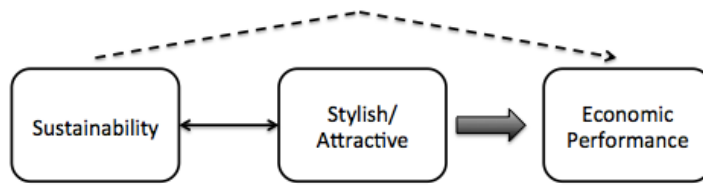


Figure 6 The relationship among sustainability, the stylish/attractive products and the economic performance

Stella McCartney says that the most challenging thing producing her eco collection is to play by rules since she has less color and less fabrics available and that they are of a different quality than the type that she is used to. However, she enjoys that people come into the store and don't even know that something is organic or faux because this means her product is attractive in the first place leather (Black, S., 2012). "I am a fashion designer," Stella McCartney" emphasizes. " I am not an environmentalist." (Black, S., 2012) Her eco collection is beautiful and stylish since it is designed with no compromises from the design point-of view.

Pure Waste is a brand with purpose. They believe a small choice can have a huge impact and their aim is to make the good choices easier for consumers (Fashionflashfinland, 2014). Pure waste does not only focus on using recycled material but also transforming waste in to good-looking with high quality clothes. In an interview with Blue Wing Magazine, Pure Waste co-founder Hannes Bengs mentioned that some of their customers don't even notice their products are recycled. They choose them for the overall feeling. (Iisalo, L., 2016) Moreover, Hannes Bengs states that eco friendly products shouldn't be expensive by promising their ecological products have the same prices as non-ecological products from other brands (Fashionflashfinland, 2014).

When shopping in H&M stores, It is hard to distinguish which are their conscious products since they don't make their conscious product less fashionable or more expensive. The only difference is the conscious products all have a green tag on them. *"At H&M, we have set ourselves the challenge of ultimately making **fashion sustainable** and **sustainability fashionable**. We want to*

help people express their personality and feel proud of what they wear. I'm very excited to see the progress we've made so far and how this will help us to make you an even better offer – and create a more sustainable fashion future”, says Karl-Johan Persson, CEO (H&M, n.d.). H&M conscious is all about a promise to bring consumers more fashion choices that are good for people, the planet and consumers' wallets (H&M, n.d.).

Patagonia is a special brand because they are fashionable without being a fashion brand. Their products are usually leading the trend so fashion insiders are occasionally dubbing the brand “patagucci”. Nevertheless, Yvon Chouinard says that *“Our philosophy is to make the best product and that means clothing that doesn't wear out or need ironing and definitely no fashion”,* (Lee, M., 2011). Ironically, Patagonia's aversion to fashion may have won the brand its current trendiness. Jennifer Ellsworth, a professor of business at Adrian College, distinguishes between product-driven companies and market-driven companies and points out that Patagonia is clearly in the former category, designing clothing for its core constituency while largely ignoring the vicissitudes of the market (Swansburg, J., 2012). Although Yvon Chouinard is allergic to fashion, he is obsessed with the principles of good design (Swansburg, J., 2012). In short, Patagonia did not set out looking for the customers but the customers found Patagonia.

6.2.2. Define fashion and spread the actions of sustainability

Fashion is full of paradoxes. Although it should be fashion first backed up with sustainable, a big barrier is the definition of fashion itself. We assemble an outfit to express our modest uniqueness but at the same time fashion cannot be too original or too popular (Black, S., 2012). Fashion expressions are somehow contagious since fashion follows a sort of logic in the way it spreads among people (Black, S., 2012). However, just like Steve Jobs said that “Customers don't know what they want until we've shown them”, the great irony in the advertiser's message is that the company tells the consumers what they want (Black, S., 2012). As a result, it's actually the designers and companies making the fashion trend for us and we imitate something we see in an image in a magazine, a look book or from social media. However, for too many people, everything sustainable

is likened to visual stereotypes and that must be changed and replaced (Back, S., 2012). Therefore, the designers and companies should try to spread the actions of sustainability where the act of imitations happens.

Moreover, nowadays, “personal fashion blogs” or “personal style blogs” are increasing on social media. They are usually run by one individual only but sometimes cooperate with companies or get sponsored by companies. The Internet has empowered fashion consumers, transferred them from recipients or interpreters of brand messages in to active players, brand storyteller, or “author of the own life” (Crewe, L., 2013). Fashion is like a social contagion and a viral transmission, and we the people are the vectors of fashion. This also means that we have the power to affect how it flows through us to others and we can time it towards more sustainable agendas every time the imitation replicates between us (Black, S., 2012).

Brands always routinely offer their latest products to celebrities to be showcased in paparazzi shots and this became far more important than runway shows for generating maximum publicity (Black, S., 2012). Skov, L. (2010) indicates that celebrities play a key role in creating media exposure for ethical problems. In recent years, an increasing number of Hollywood celebrities have been associated with sustainable fashion. They are trying to increase awareness and at the same time making sure eco-fashion is always in fashion. For example, Natalie Portman popularizes sustainable fashion by wearing couture gowns on the red carpet by Stella McCartney. Emma Watson has set new trends in fashion by bringing eco-fashion to the runway and modeling for eco-friendly gowns from different designers. She promotes “changing the world with fashion” in public by explaining why she wore “trash” on the red carpet. *“I’m happy to encourage anyone interested in making conscientious clothing from raw, sustainable materials, so much so that I’ll work for free!”* said by Emma Watson in one of her interviews (Syc in Peace, 2015). Moreover, more and more actresses are wearing H&M conscious collection on ceremonies or parties. Even Michelle Obama is also seen adoring eco and ethical fashion clothes and vegan footwear. Her flawless sense of fashion proves

that we don't have to sacrifice style to practice eco-fashion, and still be able to save the environment from toxic waste, carbon footprint and unethical practices (Syc in Peace, 2015).

6.2.3. The desire of consuming

Fashion is a way of exploring beautiful things and it performs many roles: it is a social catalyst, a communication medium that functions in both personal and public spheres, as it is simultaneously both inward and outward looking (Black, S., 2012). However, people have the desire to appear wealthy and successful through purchasing the latest fashion. Whether the desire is a luxury brand or a mass-produced brand, they all have the detrimental effect on the environment. (Voogt, L., 2012) There was a time, when well-made clothes were standard; however, the relationship consumers have with their clothes is changed. Nowadays, people buy clothes not just simply because of they "need" it, it's more about feeling pleasure and expressing ourselves by our outfits. Therefore, Companies are producing and bringing a constant stream of trendy clothes at very low prices that feeds consumers' desires for the excitement of new acquisitions. But the flip side is that fast-fashion clothes fall apart quickly and thus creating the problem of waste.

Ho and Choi (2012) Cited in Havss, K.K. (2014) points out that except the luxury market, today's fashion industry is considered a low-value manufacturing industry and the trend towards more complex and faster garment supply chains is giving a negative ecological footprint. Britwistle and Moore (2007) further indicates that fast fashion encourages a throwaway culture where products and fashion have lost their intrinsic value (Havss, K.K., 2014). It might be difficult to get the balance of being a fashion player and sustainable but fashion can be sustainable and one thing consumers can do is to slow down the fashion cycle.

6.2.4. Raising awareness of waste and having channels for disposal

The fashion industry should not only be focused on improving upstream supply chain practice regarding sustainability, such as toxic-free production process and sustainable materials and human rights, but also pay attention on downstream supply chain issues, such as use, reuse and end of use

management issues (Havss, K.K., 2014). Since the throwaway culture today is causing consumers to replace and dispose products before their real life cycle has ended, it's important to raise consumers' consciousness concerning ecological issues in clothing. Hussein Chalayan, fashion designer, discusses the importance for the future of sustainable fashion and states *"a lot of time, people can not see how our realities are connected. As a result, people need to be re-educated to understand those connections and then, maybe we would be able to rebuild what we have around us."* (Black, S., 2012)

According to Havss, K.K. (2014), awareness-raising activities are valuable from the company's own perspective. H&M presents a clear and simple model showing the concept of closing the loop in fast fashion for their consumers. The model shows the importance of using unwanted clothes as a resource in product manufacturing. The aim is to create a closed loop for textiles, so that unwanted clothes can be reused and recycled to create fresh textile fibres for new products. Although the increase of fibre production and consumption stimulates the economy, it is a double-edged sword as it also increases the problem of textile waste (Hawley, 2009. Cited in Havss, K.K., 2014). H&M also admits that there are many challenges to overcome; nevertheless, their mission is to move away from a linear production model to a 100% circular business model (H&M, 2015).

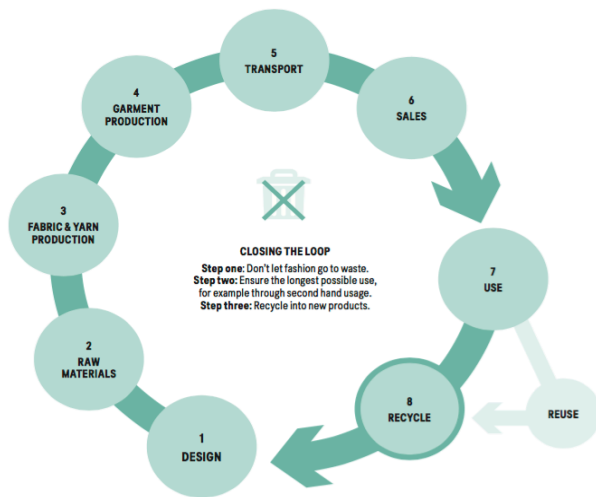


Figure 7 H&M's circular business model

(Source: H&M sustainability report 2015)

In order to meet the growing demand for ecological fabric solutions, Pure Waste supports the same concept by providing a model on their website explaining that they source textile waste, recycle it into fabrics and yarns, and turn the life cycle of clothes into a loop.

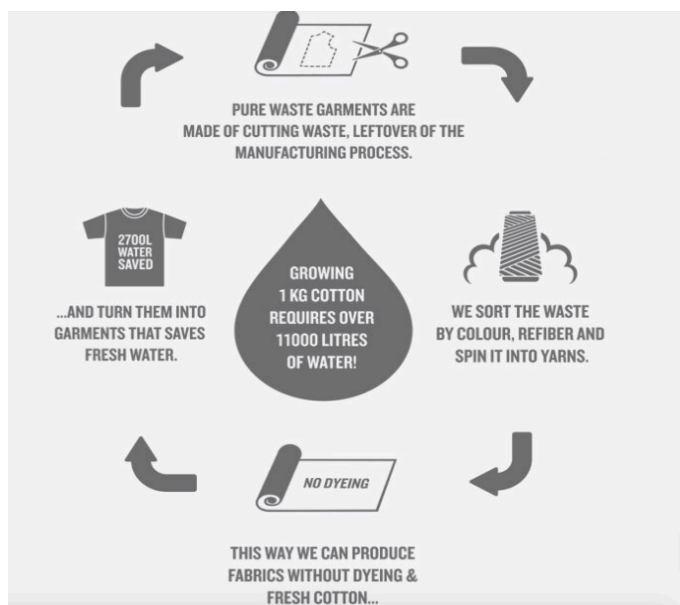


Figure 8 Pure Waste's model

(Source: Pure Waste website)

Havss, K.K. (2014) states that traditionally, fashion companies are behind the design, production, marketing and retailing of clothes. Consumers purchase and wear the clothes whose fate depends on their consumption and disposal habits. However, the convenience of clothing disposal and easy access to donations sites are the most important factors for consumers to recycle their cloth (Ha-Brookshire and Hodge, 2009. Cited in Havss, K.K., 2014). Since many of the current solutions lack this convenience and consumers' lack of awareness of the environmental impacts from used clothes, many garments, unfortunately, end up in trash bins (Havss, K.K., 2014). Fletcher and Grose (2012) Cited in Havss, K.K. (2014) propose that making the designer or retailer accountable for the future disposal of products changes the logic of clothing production, distribution and sales. Ho and Choi (2012) Cited in Havss, K.K. (2014) also suggests that fashion companies should strongly consider the product development process and extend stewardship across the multiple life-cycles of products.

“Initiatives where fashion brands are involved with product take-back, reselling, recycling, downcycling and upcycling activities are referred to as product stewardship or EPR” (Kostecki, 1998. Cited in Havss, K.K., 2014). Havss, K.K. (2014) identifies two broad approaches for companies to implement reuse, reduce, and recycle strategies. The first is to focus mainly on collecting products for reuse and recycling purposes through different in-store take-back schemes or direct donations to charities (Havss, K.K., 2014). Still, recycling is just a short-term answer to problems of waste and call for very little in the way of more profound change in buying habits (Fletcher, K. and Grose, L., 2012). Therefore, the second approach is to focus on prolonging the life of clothes by reducing waste and developing alternative reuse and second hand retail channels (Havss, K.K., 2014).

H&M implements in-store take-back schemes in collaboration with Ellen MacArthur Foundation (H&M, 2015). Customers can drop any clothes and home textiles they no longer want or need at their local H&M store no matter what brand or condition and get a discount voucher (H&M, n.d.). Havss, K.K. (2014) states that by giving a gift or discount voucher can encourage customers to

return used clothes and increase customer loyalty, which hopefully leads to increased foot traffic in stores and increased sales. While there are criticisms accusing H&M that the discount is enough to prompt a new purchase and the company is still protecting their profit margins, H&M responds that the vouchers are an effective way to stimulate recycling and they want to offer an easy solution for the customer that today throws their old clothes in the garbage (Bain, 2016). However, there is no point debating the intentions of the company since it profits both ends of the spectrum. While they are increasing their sales they are also encouraging their customers to recycle and take part in creating a more sustainable future. Consumers will continue to consume, thus it's more important to encourage them to do it responsibly.

Patagonia, have also entered a partnership with an external actor in order to benefit from the partners' know-how and resources (Havss, K.K., 2014). Patagonia provides their customers to mail their used product back or drop it off at a Patagonia retail store when their product from Patagonia is completely worn out and no longer usable (Patagonia, n.d.). In addition to a take-back system for customers, Patagonia entered a partnership with Yerdle, a smartphone app that customers can give and receive things for free and score credits to get even more free items, in the meantime encouraging customers to give away items from gear and clothes to toys and gadgets (Patagonia, n.d.).

Moreover, it should be remembered that recycling is just a short-term solution. It does not address the root cause of the waste problem in fashion (Fletcher, K. and Grose, L., 2012). Different with any other profit companies, Patagonia asks their customers to buy less and think twice before they buy anything. On Patagonia's web page, they provide a guideline and show information about how to repair and care their products in order to wear them longer. Moreover, Patagonia partners with eBay, the world biggest online second-hand marketplace, to promote the sale of secondhand clothing and footwear. Yvon Chouinard says that, *"We first asks customers to not buy something if they don't need it. If they do need it, we ask that they buy what will last a long time - and to repair what breaks, reuse or resell whatever they don't wear any more."* (McLaren, 2011) Annie Leonard,

author of “the story of stuff” appreciates this action by saying that *“Recycling is what we do when we’re out of options to avoid, repair, or reuse the product first. That’s why I am so impressed with Patagonia for starting its Common Threads Initiative with the real solution: Reduce. Don’t buy what we don’t need. Repair: Fix stuff that still has life in it. Reuse: Share. Then, only when you’ve exhausted those options, recycle.”* (Ambani, P., n.d.)

However, there are still people questioning why would a for-profit company do something like this? And could this be just another well-disguised green washing scheme? Patagonia responds, *“Whether we make money or lose money on this, we don't care. We absolutely had to come up with a way to get our customers to buy used and take care of our products so they last a long time-it’s one of the most powerful things consumers can do for our planet.”* (Lee, W., 2011). As mentioned, there is really no point arguing the intentions of the company. Compared with other for-profit companies, Patagonia raises money for the environment, campaigns for reducing our carbon footprint, campaigns for wearing worn clothing, and campaigns for becoming a responsible economy. Consumers awareness needs to be raised and if Patagonia provides this kind of information and activities to consumers, it’s making the fashion industry becomes more sustainable and help us to peruse a more sustainable future.

Company	Sustainable Materials	Disposal channels
Stella McCartney	No animal product / Recycled materials/ Organic cotton/Forest friendly fabrics/ Natural materials- linen, bamboo etc.	
H&M	Recycled materials / Organic cotton and better cotton/ Natural materials- linen, hemp etc.	In-store take-back schemes in collaboration with Ellen MacArthur Foundation
Patagonia	Renewable materials/ Recycled materials/ Organic cotton/ Natural materials-hemp	In-store product take-back scheme and resell platform for used Patagonia apparel in collaboration with eBay. Encourage customers to reduce, repair, resale and recycling.
Pure Waste	100% recycled material	

Table 4 Sustainable materials and disposals channels of the four companies

Section 3. ARE COMPANIES WILLING TO CHANGE?

There is a two-part solution to making the fashion industry more sustainable. Part one is what consumers can do. Part two is what the industry can do (Kibbie, R., 2015). A one-sided consumer-dependent approach is not realistic; therefore, the industry must make major efforts to change by taking a serious look at its entire supply chain, from seed to hanger (Kibbie, R., 2015). Rebecca Earley, coordinator of the Textiles Environment Design project, also indicates that besides consumers, cost and the traditional structures of companies are the biggest barriers to sustainability (Black S., 2012).

6.3.1. Small fashion brands

Smaller fashion brands are miles ahead of big businesses when it comes to sustainability since it's widely available to build a sustainable production model in to their DNA (Kibbie, R., 2015). Compared with the big and more established brands, they do not have to change their global production systems, or convince investors that money must be spent to re-make the system (Kibbie, R., 2015). But on the other hand, they are not that well known compared with the big businesses. Moreover, consumers like to buy what are convenient and familiar. For example, even a customer from Asia might read about Pure Waste from a magazine and get interested in their clothes, Pure waste only has stores in Finland. Although it's possible to buy their products online, the international shipping fee might let consumers lose the desire to buy the products. However, small companies are the testing grounds and they play an important role to showcase sustainable ideas in the fashion industry (Black S., 2012).

6.3.2. Big fashion Brands

It requires investment in innovation for bigger companies to achieve a win-win situation: sustainable and profitable (Hall and Vredenburg, 2003). Some big fashion brands such as H&M have launched sustainable capsule collections, or employ ecofriendly materials here and there. It's a start. But it needs to be part of a larger plan to expand across the company's entire supply chain

(Kibbie, R., 2015). In order to embed sustainable design thinking and practice in companies, there needs to be a shift in how departments work and relate to each other (Black, S., 2012).

However, in reality, sustainable development innovation is usually more complex and more ambiguous than conventional market-driven innovation (Hall and Vredenburg, 2003). Although companies are able to achieve sustainable growth by radical change, in practice considerable difficulties, barriers and paradoxes exist for implementing such a strategy (Hall and Vredenburg, 2003). Hall and Vredenburg (2003) further explains that the traditional approaches to innovation have generally focused on a narrow range of stakeholders, including suppliers, complementary innovators, customers, and investors. But sustainable development innovation considers the wide range of secondary stakeholders, including safety advocates, local communities and activists for various issues, for example, anti globalization, animal rights, environmental issues etc. Moreover, various stakeholders often have disparate goals, demands and options and this can easily hinder the acceptance of an innovation (Hall and Vredenburg, 2003). Nevertheless, an appreciation for the complexity and concerns from those parties will enable companies to develop more effective sustainable development capabilities and integrate the demands from those various groups (Hall and Vredenburg, 2003).

Chesbrough (2010) came to the conclusion that business model innovation is vitally important, and yet very difficult to achieve. The barriers to changing the business model are real but companies must adopt an effectual attitude toward business model experimentation. And although some experiments will fail, so long as failure informs new approaches and understanding, this is to be expected and even encouraged.

6.3.3. Greening the supply chain and using lean production strategy

Companies are moving closer to adopting for sustainable ideas and approaches, but they are concerned about the cost and want to make sure that there will be a return in the investment (Black, S., 2012). In order to solve this kind of issues, Rao and Holt (2005) came to the conclusion that

greening the supply chain leads to competitiveness and better economic performance. Handfield and Nichols (1999) cited in Rao and Holt (2005) define the supply chain as “*all the activities associated with flow of consumption of goods and services by an end user, along with associated information flows, both up and down the supply chain*”. According to the authors, to be able to green the supply chain of a company, a series of environmental initiatives should take place within these areas:

Inbound function: The company needs to collaborate with the suppliers in order to achieve reduction of waste produced and hazardous waste that comes from certain materials and material substitutions. Inbound green supply chain can bring many benefits that lead to cost reductions and environmental innovation. (Rao and Holt, 2005)

Greening the production phase: Within supply chain greening there are certain important topics to be examined, such as cleaner production, design for environment, remanufacturing and lean production. Lean production is a strategy commonly used to “*reduce lead times, material and staff costs and simultaneously increase production activity and enhancing quality*” (Lewis, 2000 cited in Rao and Holts, 2005, p. 902)

Using lean production systems can help the companies make a difference in their production phase, where they can make an impact in the reduction of costs by reducing the general waste and hazardous waste. (Sanches and Perez, 2001, cited in Rao and Holt, 2005) Working on their production phase with regards to waste reduction will not only save them costs of unnecessary raw material use, but will also help them keep up their environmental performance.

Greening the outbound function: Outbound green supply chain are green marketing, environment-friendly packaging and distribution. (Rao and Holt, 2005)

With changes in each part of the supply chain, the efficiency and synergy along the supply chain and corporations can be increased, the environmental performance improved, the waste level reduced and achieve cost savings. (Rao and Holt, 2005)

“At Patagonia, we are dedicated to abundance. We don’t want to grow larger, but want to remain lean and quick” (Patagonia, 2004). Yvon Chouinard says Patagonia’s secret is its supply chain. They track every step to make sure there are no unintended consequences of their actions (Chandler, M., 2011). Stella McCartney also builds a long-term relationship with their suppliers and they believe in working with suppliers that share their vision. They set up responsible sourcing policies and are working to ensure that they are supporting safe and fair working conditions across their supply chain (Stella McCartney, n.d.). Controlling their supplier’s environmental conditions closely can ensure the materials and equipment used in the production of their products are environmentally- friendly (Rao and Holt, 2005). And making sure the employees’ working condition can increase motivation and productivity, and reduce the absenteeism of supply chain personnel (Holmes et al., 1996; McElroy et al., 1993. Cited in Carter and Roger, 2008.) Moreover, lower the recruitment and labor turnover cost (Carter and Roger, 2008).

H&M maintains good control over their outsourced production phases. They ensure that the products have the right price with good quality. And they are manufactured in the right condition and conduct checking and testing in order to reduce lead-time. Apart from this; they have auditors regularly inspect work conditions and monitor environment effects of manufacturing activities. H&M works with few middlemen to buy the right items in large volume from the right market so that they can offer the consumers high quality fashion at the best price. They have a well-established and efficient distribution channel and rely heavily on its IT system to work efficiently. Moreover, H&M places a big emphasis on the green transportation. More than 90 percent of all transports are done via ocean, rail or road. Air is used only in exceptional cases when faster deliveries are required. (H&M, 2012; Popat, R., 2014)

6.3.4. The reasons for companies intergrade sustainability

As mentioned above in the theoretical framework, there are two main reasons that companies desire to become “green”. The first is to comply the regulations and certain standards, and the second is that they believe in the pursuit and promotion of sustainable work practices.

For Stella McCartney, Patagonia, and Pure Waste, their culture is focused on sustainable work practices and they base work practices on the values of the firms. They are more the type of brands that will not only comply with the laws, but will work to have better sustainable practices than required. For H&M, although the company was not originally built with green and not all of their products are sustainable products, they are moving forward to become greener. *“We have to change how fashion is made and enjoyed today. Our vision is that all our operations are run in a way that is economically, socially and environmentally sustainable. We want to use our size and scale to lead the change towards fully circular and truly sustainable fashion.”*, says Anna Gedda, H&M’s head of sustainability (H&M, n.d.). As a result, H&M is also considered doing green not just because they are required to do so.

Risk minimization:

The four companies all have close relationships with their stakeholders and work to bring long-term improvement for people and the environment. However, H&M as a retailer giant still often get targeted by NGOs with accusations of them being a sweatshop. The fact is H&M does not own factories, but instead buys products from independent suppliers. And due to the complexity of the supply chain, they cannot really control it. Classical mythology tells the Story of how Hercules tried to kill the multi-headed monster Hydra. Every time he smashed one head off, two would grow back in its place. Sustainable development is not that simple to achieve since it full of barriers and usually one problem is solved but two more problems are created. Nevertheless, NGOs play an important role in being critical and supporting companies do better on social and environment issues. To minimize being a target of consumer campaigns and boycotts, H&M is working on being more

transparent. For example, H&M is one of the first and largest fashion companies in the world to make its supplier factory list public (H&M, 2013). Moreover, H&M collaborates with trade unions and NGOs, making it possible to contribute to change throughout the industry (H&M, 2015).

Reputation improvement:

Although there is people keep questioning H&M with different issues, H&M are working hard on gaining a reputation in sustainability. The Ethisphere Institute, a global leader in defining and advancing the standards of ethical business practices, recognized H&M as one of the World's Most Ethical Companies in 2015 and 2016 (Ethisphere, n.d.). This not only builds trust with their suppliers and other stakeholders but also can influence future income.

Patagonia and Stella McCartney outgrew their loyal customers base by their brand image and good design with high quality products. When consumers have strong and positive emotional attachment to a brand, they are more likely offer word of mouth to advocate the brand to others (Matzler et al., 2007. Cite in Wallace, Buil and Chernatony, 2014b). Same for Pure Waste, while Pure Waste is still a small fashion brand, their story and concept are often shown on magazines or articles. Their good image could not only attract the readers to become potential customers but also let the readers promote the brand to other people for them.

Competitive advantage:

Companies who engaged in more visible activities to improve their corporate environmental reputations will enhance the firms' competitiveness (Bansal and Roth, 2000). As a result, the four companies already have the competitive advantage by having good brand images and reputations.

Startups, spinouts, and new entrants often have advantages compare with big companies who usually have conflicts with their current business models, culture and stakeholders when dealing with sustainability issues (Chesbrough, 2010). Pure waste started their brand by only using recycled

material without making any compromises of the quality and good-looking styles. This makes them stand out from others since they are able to maintain the value they have with the brand.

A large collection of “first” has brought Patagonia impressive success. Take cotton for example, way back in 1996, Patagonia switched all of its cotton to organic and has never looked back. And only recently have other apparel giants such as Nike and Timberland started to do the same. Moreover, Patagonia’s first catalogue using recycled paper was in 1990 and they started to produce post-consumer recycled polyester fleece in 1993. (Lee, M., 2011) The developing of this brand advantage now leads to long-term returns for Patagonia. Moreover, Patagonia’s costumers have a strong brand loyalty since they are willing to pay more for buying high quality, durable and good-looking clothes that have been manufactured in a sustainable way. Making sustainability the core of Patagonia’s business has created a competitive advantage allowing them to command a premium price and become a leading retailer in the outdoor clothing segment.

Stella McCartney is turning things on their head with many innovative projects for perusing sustainability. Since they are the first and only vegetarian luxury brand, they are able to differentiate from the high street fashion world. The already fashionable and high quality products provided by a strong brand that is supported by sustainable initiatives is the major competitive advantage for Stella McCartney.

The fast fashion industry requires a short life cycle, to satisfy the fast changes of customers’ preference. And the fast fashion business model is usually incompatible with sustainability. Therefore, every positive sustainability actions H&M is doing and every effort H&M put in sustainability actually matter. H&M is gaining the reputation for its sustainability commitment and it helps H&M gaining more market share.

CHAPTER 7. CONCLUSION

Sustainability encompasses three main areas: environmental, social and economic. The goal for the fashion industry being sustainable is to create a system that can be supported indefinitely in terms of both environment and social responsibility and still maintain the current business models. However, this goal does not come without its challenges.

First, sustainability in fashion can mean a design's sustainable and that has become one of the key issues influencing the direction of textiles over the coming decade. However, the issues for fibres are usually far more complex than just substituting the fibres that have negative impacts on ecological and social systems. Designers can no longer just use a nice color, spot the right trend and make a new collection. Companies need to work with the designers to address everything from the source of the raw materials through design, production, and reuse of materials and products.

Second, fashion involves everybody and sustainability needs consumers to engage in it. In the past, the words "conscious consumer" conjured images of either hemp-wearing hippies or crazy-eyed PETA activists, doing demonstrations for preventing the use of fur. Nowadays a conscious consumer is anyone who recognizes that what they purchase can have a serious effect on the earth. Moreover, one of the most important things we can do as consumers now is to slow down the fashion cycle. In this sense, education plays a key role in raising awareness among consumers. It's necessary for companies to build sustainability into the curriculum provide information and disposal channels for consumers and be very transparent about their processes and production. However, a sustainable product should not lose the consumers' attraction from its looks or style since it's impossible to expect everyone to become an environmentalist. Consumers are always more interested in fashion and design than in sustainability. Due to the Internet, social media, and blogs today consumers are able to view trends as soon as they emerge, it's a way to change and replace people's visual stereotypes and raise their interest in sustainable fashion.

Finally, it might be costly for companies to change and adopt sustainability, but the industry needs more people to get together for sustainability to happen on a bigger scale. There are however ways in which companies can improve and consequently reduce the costs. Greening their supply chain can be one of the initiatives that not only will help them reaffirm their image to their customers and gain new ones, but it will help them decrease unnecessary costs. By implementing a lean strategy they will be able to have efficiency in their production, synergy and collaboration with their partners or suppliers, improve environmental performance and reduce the generation of waste.

Moreover, the case study illustrates the different roles that companies play in the transformation toward sustainability. New entrants are more likely than incumbents to pursue sustainability-related opportunities and they are always going to be important to demonstrate sustainable ideas and activities. Pure Waste sets an example for others on how to build an ecologically sustainable business in a highly competitive market, while others make profits by exploiting our environment. On the other hand, for big companies such as H&M, considerable difficulties, barriers and paradoxes exist for having radical changes toward sustainability. However, every positive sustainable action they do can build awareness and lead to a competitive advantage for the brand. Overall, due to the complexity in fashion, it's full of challenges for companies to implement such a strategy. However, It's still needed and worth to do it. By implementing sustainability, companies can reduce unnecessary risks, gain reputations, become more competitive, and lead to a better economic performance.

Still, it's hard to be perfect since everything we are doing has an impact on the environment. Stella McCartney also states that “*I'm not going to stand here and claim to be 100% green or 100% perfect all the time*” (Black, S., 2012). She further explains that sustainability isn't just one thing, it isn't just organic cotton – it's organic cotton, plus wind energy, plus not using PVC, plus “thousands of other little steps” that eventually make a more responsible and environmentally conscious company (Stella McCartney, n.d.). However, fashion can definitely be more or less sustainable. All the industry players have a responsibility to create a sustainable fashion industry. As a result, if

designers, fashion brands, and consumers can all come together working hand in hand to find out where those roles and responsibilities overlap, it's possible to conquer those challenges and pursue a more sustainable future.

The main limitation of this thesis study is the limited data set and therefore further studies are required to extend a more in-depth understanding on how companies conquer the sustainable challenges. Since these four companies all claim that their products are sustainable without compromising the style and the quality, further research could provide more insights into how the companies manage to make fashion sustainable and sustainability fashionable with the limit of color and materials. Another interesting focus of research could be the relationship between the brands and celebrities. Celebrities have the power to influence people but at the same time they also eager for attention. It's a win-win situation for brands to offer their sustainable products to celebrities since the products will be showcased in the media and increase consumers' awareness, at the same time the celebrities also gain a good image and reputation in the public.

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